



May 20, 2019

Mr. James F. Fisher
Plan Administrator
City Pension Fund for Firefighters and Police Officers
in the City of Pembroke Pines, Florida
Hampton Professional Center
1951 NW 150th Avenue – Suite 104
Pembroke Pines, Florida 33028

Re: October 1, 2018 Chapter 112.664 Compliance Report

Dear Jim:

As requested, we are pleased to provide the attached October 1, 2018 Chapter 112.664 Compliance Report for the City Pension Fund for Firefighters and Police Officers in the City of Pembroke Pines, Florida (Fund).

As required, we will timely upload the required data to the State's online portal.

Please note we understand the following items must be posted on the Fund's website and must be posted on any website containing budget information relating to the City or actuarial or performance information relating to the Fund:

- this compliance report
- most recent financial statement
- most recent actuarial valuation report
- a link to the Division of Retirement Actuarial Summary Fact Sheet
http://www.dms.myflorida.com/workforce_operations/retirement/local_retirement_plans/local_retirement_section/actuarial_summary_fact_sheets
- for the previous five years - a side-by-side comparison of the Fund's assumed rate of return compared to the actual rate of return as well as the percentages of cash, equity, bond and alternative investments in the Fund portfolio
- the Fund's funded ratio as determined in the most recent actuarial valuation – 77.0% on a market value of assets basis as of October 1, 2018

We appreciate the opportunity to work with the Board on this important assignment.

If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

A handwritten signature in black ink that reads "L. F. Wilson". The signature is written in a cursive, flowing style.

Lawrence F. Wilson, A.S.A.
Senior Consultant and Actuary

Enclosures

City Pension Fund For Firefighters and Police Officers In The City Of Pembroke Pines

CHAPTER 112.664, F.S. COMPLIANCE REPORT

In Connection with the October 1, 2018 Funding Actuarial Valuation Report and the Fund's Financial Reporting for the Year Ended September 30, 2018





May 20, 2019

Board of Trustees
c/o Mr. James F. Fisher
Plan Administrator
City Pension Fund for Firefighters and Police Officers
in the City of Pembroke Pines, Florida
Hampton Professional Center
1951 NW 150th Avenue – Suite 104
Pembroke Pines, Florida 33028

Re: October 1, 2018 Chapter 112.664 Compliance Report

Dear Board Members:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the Board of Trustees (Board) of the City Pension Fund for Firefighters and Police Officers in the City of Pembroke Pines, Florida (Fund) to prepare a disclosure report to satisfy the requirements set forth in Chapter 112.664, F.S. and as further required pursuant to Chapter 60T-1.0035, F.A.C.

This report was prepared at the request of the Board and is intended for use by the Board and those designated or approved by the Board. This report may be provided to parties other than the Board only in its entirety and only with the permission of the Board.

The purpose of the report is to provide the required information specified in Chapter 112.664, F.S. and to supplement this information with additional exhibits. This report should not be relied on for any purpose other than the purpose described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Fund's funded status); and changes in Fund provisions or applicable law. The scope of this engagement does not include an analysis of the potential range of such measurements.

This report is based upon information furnished by the City and the Board concerning Fund benefits, Fund provisions and Fund members as used in the corresponding Actuarial Valuation Reports for the Valuation Dates indicated. Financial information was provided by the City and

Board as of September 30, 2018. We reviewed the information provided for internal and year-to-year consistency, but did not audit the data. The Fund is responsible for the accuracy of the data.

Except where specific assumptions are required by Chapter 112.664, F.S, this report was prepared using actuarial assumptions adopted by the Board as described in Section C. The Board's actuarial assumptions are based on the results of an actuarial Experience Study for the period October 1, 2009 – September 30, 2014. The mortality assumptions are prescribed by statute. The actuarial assumptions represent an estimate of future Fund experience.

The investment return assumption of 2% higher than the investment return assumption utilized in the Actuarial Valuation Report does not represent an estimate of future Fund experience nor observation of the estimates inherent in market data. This assumption is provided as a counterpart to the Chapter 112.664, F.S. requirement to utilize an investment return assumption of 2% lower than the investment return assumption utilized in the Actuarial Valuation Report. Inclusion of an investment return 2% higher than the investment return assumption utilized in the Actuarial Valuation Report shows a more complete assessment of the potential range of results as opposed to the *one-sided* range required by statute.

If all actuarial assumptions are met and if all current and future minimum required contributions are paid Fund assets will be sufficient to pay all Fund benefits, future contributions are expected to remain relatively stable as a percent of payroll and the funded status is expected to improve. Fund minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act, Firefighters Retirement Chapter 175 and Police Officers Retirement Chapter 185 with normal cost determined as a level percent of covered payroll and a level percent amortization payment using an initial amortization period of 30 years.

The Fund's funded ratio as of October 1, 2018 is 77.0% defined as the ratio of the market value of Fund assets to the actuarial accrued liability.

The Fund's funded ratio and the GASB Net Pension Liability may not be appropriate for assessing the sufficiency of Fund assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the Fund sponsor.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and presents the actuarial position of the Fund as of the valuation date as

required by statute. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

With respect to the reporting standards for defined benefit retirement plans or systems contained in Section 112.664(1), F.S., the actuarial disclosures required under this section were prepared and completed by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, meet the requirements of Section 112.664(1), F.S., and Section 60T-1.0035, F.A.C.

Respectfully submitted,

GABRIEL, ROEDER, SMITH AND COMPANY

By 

Lawrence F. Wilson, M.A.A.A
Enrolled Actuary No. 17-02802
Senior Consultant & Actuary

By 

Jennifer M. Borregard, M.A.A.A
Enrolled Actuary No. 17-07624
Consultant & Actuary

Date: May 20, 2019

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SECTION A

CHAPTER 112.664, F.S. RESULTS

Net Pension Liability
Using Financial Reporting Assumptions per GASB Statements No. 67 and No. 68
and Using Assumptions Required Under 112.664(1)(a), F.S.

Measurement Date	<u>September 30, 2018</u>
A. <u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 9,288,146
Interest	62,814,379
Benefit Changes	0
Difference Between Actual and Expected Experience	4,956,652
Assumption Changes	5,779,580
Benefit Payments	(32,535,494)
Contribution Refunds	(446,372)
Other	<u>0</u>
Net Change in Total Pension Liability	\$ 49,856,891
Total Pension Liability (TPL) - (beginning of year)	<u>796,795,803</u>
Total Pension Liability (TPL) - (end of year)	<u>\$ 846,652,694</u>
B. <u>Fund Fiduciary Net Position</u>	
Contributions - City	\$ 26,710,046
Contributions - State	2,485,959
Contributions - Member	2,787,802
Net Investment Income	64,922,938
Benefit Payments	(32,535,494)
Contribution Refunds	(446,372)
Administrative Expenses	(627,989)
Other	<u>30,970</u>
Net Change in Fund Fiduciary Net Position	\$ 63,327,860
Fund Fiduciary Net Position - (beginning of year)	<u>599,325,724</u>
Fund Fiduciary Net Position - (end of year)	<u>\$ 662,653,584</u>
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ 183,999,110
Valuation Date	October 1, 2017

Certain Key Assumptions

Investment Return Assumption 7.85%

Mortality Table:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Net Pension Liability
Using Assumptions Required Under 112.664(1)(b), F.S.

Measurement Date	<u>September 30, 2018</u>
A. <u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 14,984,860
Interest	59,853,621
Benefit Changes	0
Difference Between Actual and Expected Experience	9,477,628
Assumption Changes	9,757,186
Benefit Payments	(32,535,494)
Contribution Refunds	(446,372)
Other	0
Net Change in Total Pension Liability	\$ 61,091,429
Total Pension Liability (TPL) - (beginning of year)	1,008,098,558
Total Pension Liability (TPL) - (end of year)	<u>\$ 1,069,189,987</u>
B. <u>Fund Fiduciary Net Position</u>	
Contributions - City	\$ 26,710,046
Contributions - State	2,485,959
Contributions - Member	2,787,802
Net Investment Income	64,922,938
Benefit Payments	(32,535,494)
Contribution Refunds	(446,372)
Administrative Expenses	(627,989)
Other	30,970
Net Change in Fund Fiduciary Net Position	\$ 63,327,860
Fund Fiduciary Net Position - (beginning of year)	599,325,724
Fund Fiduciary Net Position - (end of year)	<u>\$ 662,653,584</u>
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ 406,536,403
Valuation Date	October 1, 2017

Certain Key Assumptions

Investment Return Assumption 5.85%

Mortality Table:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Net Pension Liability

Using Assumptions Required Under 112.664(1)(a), F.S. Plus 2% on Investment Return Assumption

Measurement Date	<u>September 30, 2018</u>
A. <u>Total Pension Liability (TPL)</u>	
Service Cost	\$ 6,023,367
Interest	64,363,370
Benefit Changes	0
Difference Between Actual and Expected Experience	1,263,190
Assumption Changes	2,824,406
Benefit Payments	(32,535,494)
Contribution Refunds	(446,372)
Other	0
Net Change in Total Pension Liability	\$ 41,492,467
Total Pension Liability (TPL) - (beginning of year)	657,418,855
Total Pension Liability (TPL) - (end of year)	<u>\$ 698,911,322</u>
B. <u>Fund Fiduciary Net Position</u>	
Contributions - City	\$ 26,710,046
Contributions - State	2,485,959
Contributions - Member	2,787,802
Net Investment Income	64,922,938
Benefit Payments	(32,535,494)
Contribution Refunds	(446,372)
Administrative Expenses	(627,989)
Other	30,970
Net Change in Fund Fiduciary Net Position	\$ 63,327,860
Fund Fiduciary Net Position - (beginning of year)	599,325,724
Fund Fiduciary Net Position - (end of year)	<u>\$ 662,653,584</u>
C. <u>Net Pension Liability (NPL) - (end of year): (A) - (B)</u>	\$ 36,257,738
Valuation Date	October 1, 2017

Certain Key Assumptions

Investment Return Assumption 9.85%

Mortality Table:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Asset and Benefit Payment Projection
Not Reflecting Any Future Contributions
Using Financial Reporting Assumptions per GASB Statements No. 67 and No. 68
and Using Assumptions Required Under 112.664(1)(a), F.S.

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2019	\$ 524,603,190	\$ 39,427,435	\$ 35,714,231	\$ 528,316,394
2020	528,316,394	39,610,723	38,260,433	529,666,684
2021	529,666,684	39,618,428	40,597,713	528,687,399
2022	528,687,399	39,452,301	42,746,453	525,393,247
2023	525,393,247	39,103,198	44,953,053	519,543,392
2024	519,543,392	38,564,518	46,925,794	511,182,116
2025	511,182,116	37,845,489	48,526,388	500,501,217
2026	500,501,217	36,944,280	50,156,890	487,288,607
2027	487,288,607	35,852,311	51,626,676	471,514,242
2028	471,514,242	34,563,596	53,022,929	453,054,909
2029	453,054,909	33,072,738	54,244,744	431,882,903
2030	431,882,903	31,373,409	55,391,926	407,864,386
2031	407,864,386	29,458,477	56,385,296	380,937,567
2032	380,937,567	27,317,880	57,350,335	350,905,112
2033	350,905,112	24,938,115	58,241,824	317,601,403
2034	317,601,403	22,305,297	59,082,915	280,823,785
2035	280,823,785	19,402,508	59,900,229	240,326,064
2036	240,326,064	16,210,213	60,701,683	195,834,594
2037	195,834,594	12,706,187	61,508,352	147,032,429
2038	147,032,429	8,869,297	62,234,351	93,667,375
2039	93,667,375	4,679,110	62,897,879	35,448,606
2040	35,448,606	651,666	63,483,703	-
2041	-	-	63,966,023	-
2042	-	-	64,393,414	-
2043	-	-	64,696,964	-
2044	-	-	64,845,521	-
2045	-	-	64,877,966	-
2046	-	-	64,782,326	-
2047	-	-	64,547,910	-
2048	-	-	64,164,029	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 21.50

Certain Key Assumptions

Investment return assumption 7.80%

Mortality Table:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Fund assets does not include future contributions from the City, Member or State. For this reason, this projection should not be viewed as representative of the amount of time the Fund can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Fund is expected to be able to pay all future benefit payments.

Asset and Benefit Payment Projection
Not Reflecting Any Future Contributions
Using Assumptions Required Under 112.664(1)(b), F.S.

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2019	\$ 524,603,190	\$ 29,314,627	\$ 35,714,231	\$ 518,203,586
2020	518,203,586	28,864,146	38,260,433	508,807,299
2021	508,807,299	28,246,364	40,597,713	496,455,950
2022	496,455,950	27,463,061	42,746,453	481,172,558
2023	481,172,558	26,507,897	44,953,053	462,727,402
2024	462,727,402	25,376,635	46,925,794	441,178,243
2025	441,178,243	24,076,932	48,526,388	416,728,787
2026	416,728,787	22,608,080	50,156,890	389,179,977
2027	389,179,977	20,964,471	51,626,676	358,517,772
2028	358,517,772	19,142,575	53,022,929	324,637,418
2029	324,637,418	17,139,460	54,244,744	287,532,134
2030	287,532,134	14,951,623	55,391,926	247,091,831
2031	247,091,831	12,575,146	56,385,296	203,281,681
2032	203,281,681	10,004,100	57,350,335	155,935,446
2033	155,935,446	7,230,252	58,241,824	104,923,874
2034	104,923,874	4,245,384	59,082,915	50,086,343
2035	50,086,343	1,098,019	59,900,229	-
2036	-	-	60,701,683	-
2037	-	-	61,508,352	-
2038	-	-	62,234,351	-
2039	-	-	62,897,879	-
2040	-	-	63,483,703	-
2041	-	-	63,966,023	-
2042	-	-	64,393,414	-
2043	-	-	64,696,964	-
2044	-	-	64,845,521	-
2045	-	-	64,877,966	-
2046	-	-	64,782,326	-
2047	-	-	64,547,910	-
2048	-	-	64,164,029	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 16.83

Certain Key Assumptions

Investment return assumption 5.80%

Mortality Table:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Fund assets does not include future contributions from the City, Member or State. For this reason, this projection should not be viewed as representative of the amount of time the Fund can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Fund is expected to be able to pay all future benefit payments.

Asset and Benefit Payment Projection
Not Reflecting Any Future Contributions
Using Assumptions Required Under 112.664(1)(a), F.S. Plus 2% on Investment Return Assumption

FYE	Market Value of Assets (BOY)	Expected Investment Return	Projected Benefit Payments	Market Value of Assets (EOY)
2019	\$ 524,603,190	\$ 49,542,357	\$ 35,714,231	\$ 538,431,316
2020	538,431,316	50,764,283	38,260,433	550,935,166
2021	550,935,166	51,867,361	40,597,713	562,204,814
2022	562,204,814	52,859,353	42,746,453	572,317,714
2023	572,317,714	53,734,957	44,953,053	581,099,618
2024	581,099,618	54,492,359	46,925,794	588,666,183
2025	588,666,183	55,150,131	48,526,388	595,289,926
2026	595,289,926	55,713,941	50,156,890	600,846,977
2027	600,846,977	56,181,625	51,626,676	605,401,926
2028	605,401,926	56,554,951	53,022,929	608,933,948
2029	608,933,948	56,837,158	54,244,744	611,526,362
2030	611,526,362	57,031,188	55,391,926	613,165,624
2031	613,165,624	57,139,857	56,385,296	613,920,185
2032	613,920,185	57,163,308	57,350,335	613,733,158
2033	613,733,158	57,098,332	58,241,824	612,589,666
2034	612,589,666	56,942,259	59,082,915	610,449,010
2035	610,449,010	56,689,709	59,900,229	607,238,490
2036	607,238,490	56,333,142	60,701,683	602,869,949
2037	602,869,949	55,862,816	61,508,352	597,224,413
2038	597,224,413	55,271,565	62,234,351	590,261,627
2039	590,261,627	54,554,493	62,897,879	581,918,241
2040	581,918,241	53,706,187	63,483,703	572,140,725
2041	572,140,725	52,722,753	63,966,023	560,897,455
2042	560,897,455	51,598,550	64,393,414	548,102,591
2043	548,102,591	50,328,770	64,696,964	533,734,397
2044	533,734,397	48,912,913	64,845,521	517,801,789
2045	517,801,789	47,349,820	64,877,966	500,273,643
2046	500,273,643	45,637,066	64,782,326	481,128,383
2047	481,128,383	43,773,097	64,547,910	460,353,570
2048	460,353,570	41,757,252	64,164,029	437,946,793
2049	437,946,793	39,589,628	63,624,324	413,912,097
2050	413,912,097	37,271,122	62,919,223	388,263,996
2051	388,263,996	34,803,580	62,040,650	361,026,926
2052	361,026,926	32,189,816	60,980,564	332,236,178
2053	332,236,178	29,433,631	59,732,442	301,937,367
2054	301,937,367	26,539,445	58,297,235	270,179,577
2055	270,179,577	23,511,904	56,678,083	237,013,398
2056	237,013,398	20,355,653	54,880,961	202,488,090
2057	202,488,090	17,075,083	52,914,222	166,648,951
2058	166,648,951	13,674,051	50,788,993	129,534,009
2059	129,534,009	10,155,313	48,523,815	91,165,507
2060	91,165,507	6,519,840	46,141,777	51,543,570
2061	51,543,570	2,766,454	43,665,651	10,644,373
2062	10,644,373	90,065	41,121,414	-

Number of years for which current market value of assets are adequate to sustain the payment of expected retirement benefits reflecting no contributions from the City, Members or State: 43.25

Certain Key Assumptions

Investment return assumption 9.80%

Mortality Table:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Note: As required in Section 112.664(c) of the Florida Statutes, the projection of Fund assets does not include future contributions from the City, Member or State. For this reason, this projection should not be viewed as representative of the amount of time the Fund can sustain benefit payments. Under the Government Accounting Standards Board standards which include City, Member and State contributions, the Fund is expected to be able to pay all future benefit payments.

ACTUARIALLY DETERMINED CONTRIBUTION

	Valuation Assumptions and 112.664(1)(a), F.S. Assumptions	112.664(1)(b), F.S. Assumptions	112.664(1)(a), F.S. Assumptions Plus 2% on Investment Return Assumption
A. Valuation Date	October 1, 2018	October 1, 2018	October 1, 2018
B. Actuarial Determined Contribution to Be Paid During Fiscal Year Ending	September 30, 2020	September 30, 2020	September 30, 2020
C. Annual Payroll of Active Employees	\$ 27,339,558	\$ 27,339,558	\$ 27,339,558
D. Total Minimum Funding Requirement			
1. Total Normal Cost	\$ 10,125,089	\$ 15,950,721	\$ 6,792,213
2. Annual Payment to Amortize Unfunded Actuarial Liability	21,634,125	34,109,767	10,054,521
3. Interest Adjustment	<u>1,503,481</u>	<u>1,775,478</u>	<u>994,311</u>
4. Total Minimum Funding Requirement	\$ 33,262,695	\$ 51,835,966	\$ 17,841,045
E. Expected Payroll of Active Employees for Following Fund Year (\$ / % of pay) (C x 1.003)	\$ 27,421,577 100.30%	\$ 27,421,577 100.30%	\$ 27,421,577 100.30%
F. Expected Contribution Sources (\$ / % of pay)			
1. City	\$ 28,309,957 103.24%	\$ 46,929,208 171.14%	\$ 12,844,188 46.84%
2. Members	2,576,143 9.39%	2,576,143 9.39%	2,576,143 9.39%
3. State	<u>2,485,959 9.07%</u>	<u>2,485,959 9.07%</u>	<u>2,485,959 9.07%</u>
4. Total	\$ 33,372,059 121.70%	\$ 51,991,310 189.60%	\$ 17,906,290 65.30%

Unfunded Actuarial Accrued Liabilities Bases and Amortization Payments

	<u>Amortization Base</u>	Amortization Payment				Remaining Funding Period
		Current Unfunded Liabilities	Valuation and 112.664(1)(a), F.S. Assumptions	112.664(1)(b), F.S. Assumptions	112.664(1)(a), F.S. Assumptions Plus 2%	
10/01/2003	Gain and Loss Bases	\$ 10,949,443	\$ 1,921,943	\$ 1,825,474	\$ 2,018,874	7 years
10/01/2003	Others	638,354	112,050	106,425	117,701	7 years
10/01/2003	Plan Amendment	60,218,706	6,338,541	5,681,234	7,015,406	15 years
10/01/2004	Plan Amendment	38,350,098	3,897,593	3,471,048	4,337,705	16 years
10/01/2004	Plan Amendment	349,857	35,557	31,665	39,572	16 years
10/01/2006	Assumption Change	6,880,327	658,508	579,263	740,546	18 years
10/01/2006	Plan Amendment	29,937,353	2,865,268	2,520,463	3,222,228	18 years
10/01/2006	Plan Amendment	2,346,357	224,567	197,543	252,544	18 years
10/01/2009	Assumption Change	13,093,282	1,167,802	1,009,761	1,331,989	21 years
10/01/2009	Method Change	25,797,334	2,300,887	1,989,505	2,624,381	21 years
05/01/2010	Plan Amendment	(34,440,579)	(3,036,516)	(2,617,275)	(3,472,278)	21.583 years
10/01/2010	Actuarial (Gain) / Loss	13,710,894	1,199,358	1,031,465	1,373,922	22 years
10/01/2011	Actuarial (Gain) / Loss	10,741,152	923,056	789,696	1,061,803	23 years
10/01/2011	Assumption Change	(1,673,500)	(143,815)	(123,037)	(165,432)	23 years
10/01/2012	Actuarial (Gain) / Loss	4,384,624	370,733	315,564	428,156	24 years
10/01/2013	Actuarial (Gain) / Loss	(637,517)	(53,108)	(44,984)	(61,568)	25 years
10/01/2013	Plan Amendment	756,004	62,979	53,344	73,011	25 years
10/01/2014	Actuarial (Gain) / Loss	(5,025,355)	(412,967)	(348,125)	(480,491)	26 years
10/01/2014	Plan Amendment	12,965	1,065	898	1,240	26 years
10/01/2015	Actuarial (Gain) / Loss	4,080,072	331,113	277,838	386,595	27 years
10/01/2015	Plan Amendment	9,150	743	623	867	27 years
10/01/2015	Assumption Change	8,439,894	684,929	574,726	799,696	27 years
10/01/2016	Actuarial (Gain) / Loss	4,356,311	349,484	291,945	409,399	28 years
10/01/2016	Assumption Change	5,744,560	460,856	384,981	539,864	28 years
10/01/2017	Actuarial (Gain) / Loss	3,326,266	264,036	219,614	310,283	29 years
10/01/2017	Assumption Change	5,748,292	456,295	379,526	536,216	29 years
10/01/2018	Actuarial (Gain) / Loss	2,156,725	169,537	140,425	199,834	30 years
10/01/2018	Assumption Change	6,152,407	483,631	400,584	570,059	30 years
10/01/2018	Assumption Change - 112.664(1)(b), F.S. Assumptions	229,911,819	N/A	14,969,578	N/A	30 years
10/01/2018	Assumption Change - 112.664(1)(a), F.S. Assumptions Plus 2%	(152,797,134)	N/A	N/A	(14,157,601)	30 years

SECTION B

SUMMARY OF FUND PROVISIONS

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

A. Effective Date:

October 1, 1973, revised and restated as of February 19, 1981. Most recently amended - Ordinance Number 1916.

B. Eligibility Requirements:

1. Participants in previous Retirement Plan as of February 19, 1981 are automatically and immediately included.
2. Mandatory participation (with satisfactory physical) for Police Officers and Firefighters upon date of hire or attainment of age 18, if later. The Fire Chief and Police Chief may elect to participate.

C. Continuous Service:

For Police and Firefighter Members hired before October 1, 2018, years and completed months of uninterrupted service from date of hire to date of retirement or termination.

For Police and Firefighter Members hired on or after October 1, 2018, completed years of uninterrupted service from date of hire to date of retirement or termination.

D. Earnings:

Base wages, regular longevity, overtime up to 300 hours per year, voluntary deductions and IRC 457 deferred compensation. For Police and Firefighter Members hired before October 1, 2018, earnings shall include payment of up to 1,000 hours of accrued unused sick and vacation leave, but limited to amounts accrued as of May 1, 2010. Maximum annual earnings limited to \$275,000 subject to annual increase.

E. Average Monthly Earnings (AME):

For Police and Firefighter Members hired before October 1, 2018, average monthly earnings during the highest two years of continuous service preceding the date on which the participant retires or terminates.

For Police and Firefighter Members hired on or after October 1, 2018, average monthly earnings during the highest five years out of the last ten years of service.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

F. Regular Wages:

Base pay including any incentive pay, regular longevity, assignment pay and any current or future additional pensionable compensation, but excluding overtime or accrued unused leave. Regular wages shall be used to calculate the maximum retirement benefit for Firefighters hired on or after April 1, 2006.

G. Average Monthly Regular Wages:

Average monthly regular wages coinciding with the highest years of continuous service for Firefighters preceding the date on which the participant retires or terminates, used in the AME.

H. Normal Retirement:

1. Eligibility:

Earliest of:

- (a) Attainment of age 50 and completion of 10 years of continuous service.
- (b) Completion of 20 years of continuous service.

2. Benefit:

- (a) For Firefighters, 3.0% times AME times years of Continuous Service - maximum 80% of AME.

Firefighters hired on or before June 18, 2003 shall receive a benefit amount equal to 4.0% per year of continuous service prior to May 1, 2010 plus 3.5% per year of continuous service after April 30, 2010 times AME - maximum 80% of AME, provided they retire or enter the DROP anytime on or after attaining age 50 with 10 years of continuous service but no later than the date they accrue the maximum 80% benefit.

Firefighters hired after June 18, 2003 but before May 1, 2010 shall receive a benefit amount equal to 4.0% per year of continuous service prior to May 1, 2010 plus 3.5% per year of continuous service after April 30, 2010 times AME - maximum 80% of AME. To obtain this benefit, such Firefighters were previously required to retire or enter the DROP upon the earlier of completion of 20 years of continuous service or attainment of age 50 with 10 years of service. To obtain this benefit, such Firefighters now are required to retire or enter the DROP no earlier than upon completion of 20 years of continuous service or attainment of age 50 with 10 years of service, and no later than the date they accrue the same accrual percentage they would have reached under the terms of the Fund in effect prior to April 30, 2010.

In no event shall the benefit for firefighters hired after March 31, 2006 exceed 98% of average monthly regular wages.

Firefighters hired after April 30, 2010 shall receive a benefit amount equal to 3.0% times AME times years of continuous service – maximum 80% of AME.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

H. Normal Retirement (cont'd):

- (b) For Police Officers, 3.0% times AME times years of Continuous Service up to 20 years of service plus 3.5% times AME times years of Continuous Service in excess of 20 years - maximum 80% of AME.

Police Officers hired before May 1, 2010 shall receive a benefit amount equal to 4.0% per year of continuous service prior to May 1, 2010 plus 3.5% per year of continuous service after April 30, 2010 times AME - maximum 80% of AME, provided they retire or enter the DROP anytime on or after attaining age 50 with 10 years of continuous service but no later than the date they accrue the maximum 80% benefit.

Police Officers hired after April 30, 2010 shall receive a benefit amount equal to 3.0% times AME times years of continuous service – maximum 80% of AME.

I. Deferred Retirement:

1. Eligibility:

Any first day of a month past Normal Retirement Date.

2. Benefit:

Benefit calculated as for Normal Retirement based upon service and pay to Deferred Retirement Date.

J. Disability Retirement:

1. Eligibility:

Totally and permanently disabled meaning incapacity to perform regular duty as Firefighter or Police Officer (and completion of at least 10 years of continuous service for non-service incurred disability).

2. Benefit:

(a) Service Incurred:

Greater of:

- Accrued benefit
- 66 2/3% of monthly earnings rate on date of disability.

(b) Non-Service Incurred:

Greater of:

- Accrued benefit
- 35% of AME on date of disability.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

K. Death Benefit:

1. Service Incurred:

To spouse, 50% of AME payable for life. To unmarried children, 5% of AME until death or attainment of age 18 (if full time student attainment of age 22). Total monthly benefit not to exceed 60% of AME. Upon death of spouse, the 5% child allowance shall be increased to 10%, subject to a maximum combined total of 35% of AME.

Benefit above reduced by the actuarial equivalent of payment of:

- if the Member had less than ten (10) years of Continuous Service, Member contributions to the beneficiary with 3% simple interest, or
- if the Member had ten (10) or more years of Continuous Service, benefit otherwise payable to the Member at the Member's Normal Retirement Date, if applicable, for ten years certain.

2. Non-Service Incurred:

- Less than five (5) years of Continuous Service, the designated beneficiary receives a lump sum of \$2,500 or return of Member contributions with 3% interest, whichever is greater.
- Five (5) or more years of Continuous Service, the designated beneficiary receives a lump sum of the greater of Member contributions (without interest) or \$2,500, plus, if married, the spouse receives a monthly benefit equal to 50% of the Accrued Benefit as of Member's date of death but not less than 20% of the monthly Earnings rate. To unmarried children of the deceased Member, same benefits as are payable for Service Incurred death. Combined monthly benefit not to exceed 50% of AME, or 35% of AME after the death or remarriage of spouse.

Benefit above reduced by the actuarial equivalent of payment of:

- if the Member had ten (10) or more years of Continuous Service, benefit otherwise payable to the Member at the Member's Normal Retirement Date, if applicable, for ten years certain.

L. Employee Contributions:

10.4% (6% prior to April 1, 1991) of annual earnings until completion of 26 2/3 years of Continuous Service.

For Firefighters and Police Officers hired on or after May 1, 2010 but before October 1, 2018, 7% of annual earnings until completion of 26 2/3 years of Continuous Service.

For Firefighters and Police Officers hired on or after October 1, 2018, 3% of annual earnings until completion of 26 2/3 years of Continuous Service.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

M. Vested Benefit Upon Termination:

1. Eligibility:

Completion of at least ten (10) years of Continuous Service at date of termination.

2. Benefit:

Accrued benefit based upon AME and years of Continuous Service as of date of termination payable at attainment of age 50.

3. Alternate Benefit:

In lieu of the above, deferred benefit payable at Normal Retirement Date; otherwise, a Member can elect to withdraw his employee contributions plus 3% simple interest per annum.

N. Termination Benefit:

1. Eligibility:

Termination of service prior to eligibility for vested benefit upon termination.

2. Benefit:

Refund of Member contributions plus 3% simple interest per annum.

O. Normal Form of Payment of Retirement Income:

For Firefighters and Police Officers hired before October 1, 2018, monthly accrued benefit payable for ten (10) years certain and life thereafter with 100% of benefit continuing to spouse for one year and 50% of benefit payable to spouse thereafter until death.

For Firefighters and Police Officers hired on or after October 1, 2018, monthly accrued benefit payable for ten (10) years certain and life thereafter.

Other Options:

Actuarially equivalent joint and survivor or joint and last survivor at 25%, 50%, 66 2/3%, 75%, 100%; life annuity; or ten years certain and life; or other option (except lump sum), subject to Board approval.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

P. Deferred Retirement Option Plan (DROP):

1. Eligibility:

A Member who has reached Normal Retirement Date is eligible to elect to participate in DROP. A Firefighter who reaches Normal Retirement Date before age 50 may participate for the lesser of eight years or until age 58, provided that Firefighters employed as of December 20, 2000 and hired after their 30th birthday, may participate in the DROP no later than completion of 20 years of Continuous Service in order to participate in the DROP for a full eight years. A Police Officer hired after his 25th birthday may participate in the DROP no later than completion of 25 years of Continuous Service in order to participate in the DROP for a full eight years. An election to participate in the DROP is irrevocable.

2. Benefit:

Accrued benefit as of entry into DROP.

3. Interest Credits:

Members entering the DROP prior to May 1, 2010, may elect annually in advance interest credits of (1) fixed 8% per annum or (2) net Fund return.

Members hired before May 1, 2010 entering the DROP after April 30, 2010:

- Credits for the first five years of DROP participation (*Bucket 1*) - may elect annually in advance DROP interest credits based upon either (1) gross Fund return or (2) gross Fund return subject to a minimum of 5% and a maximum of 8% per annum.
- If DROP participation exceeds five years, members may continue to elect annually in advance DROP interest credits based upon either (1) gross Fund return or (2) gross Fund return subject to a minimum of 5% and a maximum of 8% per annum for Bucket 1 until the tenth anniversary of separation of service from the City, after which DROP interest credits for Bucket 1 will be based on net Fund return.
- Credits for years six through eight of DROP participation (*Bucket 2*) - gross Fund return until the tenth anniversary of separation of service from the City, after which DROP interest credits for Bucket 2 will be based on net Fund return.

For Members hired after April 30, 2010, DROP interest credits will be based upon gross Fund return. If DROP participation exceeds five years, DROP interest credits will be based upon net Fund return after the tenth anniversary of separation of service from the City.

4. DROP Loan Program:

Current DROP participants or retirees may borrow against their DROP account balance up to the maximum amount permitted by the IRS.

No interest shall be earned or paid by the Plan on funds loaned from the DROP account until repaid.

The DROP loan program administered in accordance with loan policy adopted by the Board of Trustees and shall comply with all applicable IRS rules and regulations governing such loans.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

Q. 13th Check Program (Police Officers only)

1. Eligibility:

Service or disabled retired Police Officer or beneficiary receiving pension or DROP benefits.

2. Benefit:

For Police Officers retired prior to October 1, 2003, up to 2% of investment return in excess of 8% based upon present value of future pension payments of current Police Officer members, not to exceed outstanding balance of cumulative net actuarial gains. Any distributable amount allocated to eligible members based upon years of service with prorata share during first year of entitlement. See Item R. regarding election.

For Police Officers retired on or after October 1, 2003 but before October 1, 2006, up to 2% of investment return in excess of 9% based upon present value of future pension payments of current Police Officer members, not to exceed outstanding balance of cumulative net actuarial gains. Any distributable amount allocated to eligible members based upon years of service with prorata share during first year of entitlement. See Item R. regarding election.

For Police Officers retired on or after October 1, 2006 there is no 13th check.

R. Cost of Living Adjustment

For Firefighters, effective April 1, 2005 and each April 1st thereafter, retirees, beneficiaries and DROP participants who were receiving benefits on June 18, 2003 will receive either a 2% cost of living adjustment or an adjustment equal to the total percentage increase in base wages, excluding performance or merit adjustments, whichever is greater.

For Firefighters, effective April 1, 2005 and each April 1st thereafter, retirees, beneficiaries and DROP participants who were hired on or before June 18, 2003 and retire or enter the DROP prior to May 1, 2010 and anytime on or after attaining age 50 with 10 years of service but no later than attainment of 20 years of service will receive either a 2% cost of living adjustment or an adjustment equal to the total percentage increase in base wages, excluding performance or merit adjustments, whichever is greater. For those receiving for less than one year the increase shall be prorated.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

R. Cost of Living Adjustment (cont'd)

Firefighter members who were hired prior to April 1, 2006 who retire prior to May 1, 2010, current retirees and DROP participants shall have the option within sixty (60) days of the effective date of Ordinance 2006-10 to irrevocably elect to receive the cost of living adjustment provided above in lieu of their current cost of living adjustment.

For Firefighters, effective April 1, 2011 and each April 1st thereafter, retirees, beneficiaries and DROP participants who were hired before May 1, 2010 and retire or enter the DROP after April 30, 2010 at their normal retirement age receive a 2% cost of living adjustment – prorated for less than one year receipt of benefits.

For Firefighters hired after April 30, 2010 but before October 1, 2018, the cost of living adjustment is 1.5%.

For Firefighters hired on or after October 1, 2018, there is no cost of living adjustment.

Police Officer retirees, DROPs, disabilities and their beneficiaries who retired prior to October 1, 2003 eligible for any supplemental benefit based upon an 8% Fund return threshold subject to cumulative actuarial gains may elect within 60 days to replace this supplemental benefit eligibility entitlement with an annual 2.0% cost of living adjustment retroactive to October 1, 2004.

Police Officer retirees, DROPs, disabilities and their beneficiaries who retired on or after October 1, 2003 but not later than September 30, 2006 or were in the DROP on or after October 1, 2003 and entered the DROP not later than September 30, 2006 eligible for any supplemental benefit based upon a 9% Fund return threshold subject to cumulative actuarial gains along with a 1.5% cost of living adjustment effective October 1, 2009 and each October 1st thereafter may elect within 60 days to replace this supplemental benefit eligibility and 1.5% deferred cost of living adjustment entitlement with an annual 2.5% cost of living adjustment retroactive to October 1, 2004.

Police Officer retirees, DROPs, disabilities and their beneficiaries who retire or enter the DROP on or after October 1, 2006 but not later than April 30, 2010 will receive a 3.0% cost of living adjustment effective October 1, 2009 and each October 1st thereafter.

For Police Officers, effective October 1, 2010 and each October 1st thereafter, retirees, beneficiaries and DROP participants who were hired before May 1, 2010 and retire or enter the DROP after April 30, 2010 at their normal retirement age receive a 2% cost of living adjustment – prorated for less than one year receipt of benefits.

For Police Officers hired after April 30, 2010 but before October 1, 2018, the cost of living adjustment is 1.5%.

For Police Officers hired on or after October 1, 2018, there is no cost of living adjustment.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

S. Excess Benefit Plan

An excess benefits plan is established to pay retirement benefits above the limits permitted by the Internal Revenue Code. Excess Benefit Plan benefits are not included in this actuarial valuation.

T. Share Plan

A Share Plan has been adopted. The Share Plan is currently unfunded.

U. Additional Benefits Upon Rehire

Retired members receiving benefits who are rehired as certified police officers or firefighters who work 30 or more hours per week and 52 weeks per year will again become contributing members of the Fund and accrue benefits during their period of reemployment.

Rehired members shall continue to receive retirement benefit, earnings on DROP accounts and may elect to receive payments from DROP accounts.

V. Changes Since Previous Valuation

1. Continuous Service was:

Years and completed months of uninterrupted service from the date of hire to date of retirement or termination.

2. Earnings were:

Base wages, regular longevity, overtime, voluntary deductions and IRC 457 deferred compensation. Earnings shall include payment of up to 1,000 hours of accrued unused sick and vacation leave, but limited to amounts accrued as of May 1, 2010. Maximum annual earnings limited to \$275,000 subject to annual increase.

3. Average Monthly Earnings was:

Average monthly earnings (AME) during the highest two years of continuous service for Firefighters and Police Officers preceding the date on which the participant retires or terminates.

4. Employee Contributions were:

10.4% (6% prior to April 1, 1991) of annual earnings until completion of 26 2/3 years of Continuous Service.

For Firefighters and Police Officers hired on or after May 1, 2010, 7% of annual earnings until completion of 26 2/3 years of Continuous Service.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

V. Changes Since Previous Valuation (cont'd)

5. Normal Form of Payment of Retirement Income was:

Monthly accrued benefit for ten (10) years certain and life thereafter with 100% of benefit continuing to spouse for one year and 50% of benefit payable to spouse thereafter until death.

6. Deferred Retirement Option Plan (DROP) was:

a. Eligibility:

A Member who has reached Normal Retirement Date is eligible to elect to participate in DROP. A Firefighter who reaches Normal Retirement Date before age 50 may participate for the lesser of five years or until age 55, provided that Firefighters employed as of December 20, 2000 and hired after their 30th birthday, may participate in the DROP no later than completion of 20 years of Continuous Service in order to participate in the DROP for a full five years. A Police Officer hired after his 25th birthday may participate in the DROP no later than completion of 25 years of Continuous Service in order to participate in the DROP for a full five years. An election to participate in the DROP is irrevocable.

b. Benefit:

Accrued benefit as of entry into DROP.

c. Interest Credits:

Members entering the DROP prior to May 1, 2010 could elect annually in advance interest credits of a fixed 8% per annum or Fund return.

Members hired before May 1, 2010 entering the DROP after April 30, 2010, may elect annually in advance DROP interest credits based upon either Fund gross return or Fund gross return subject to a minimum of 5% and a maximum of 8% per annum.

For Members hired after April 30, 2010 entering the DROP, DROP interest credits will be based upon Fund gross return.

d. DROP Loan Program:

Current DROP participants or retirees may borrow against their DROP account balance up to the maximum amount permitted by the IRS.

No interest shall be earned or paid by the Plan on funds loaned from the DROP account until repaid.

The DROP loan program administered in accordance with loan policy adopted by the Board of Trustees and shall comply with all applicable IRS rules and regulations governing such loans.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

V. Changes Since Previous Valuation (cont'd)

7. Cost of Living Adjustment was:

For Firefighters, effective April 1, 2005 and each April 1st thereafter, retirees, beneficiaries and DROP participants who were receiving benefits on June 18, 2003 will receive either a 2% cost of living adjustment or an adjustment equal to the total percentage increase in base wages, excluding performance or merit adjustments, whichever is greater.

For Firefighters, effective April 1, 2005 and each April 1st thereafter, retirees, beneficiaries and DROP participants who were hired on or before June 18, 2003 and retire or enter the DROP prior to May 1, 2010 and anytime on or after attaining age 50 with 10 years of service but no later than attainment of 20 years of service will receive either a 2% cost of living adjustment or an adjustment equal to the total percentage increase in base wages, excluding performance or merit adjustments, whichever is greater. For those receiving for less than one year the increase shall be prorated.

Firefighter members who were hired prior to April 1, 2006 who retire prior to May 1, 2010, current retirees and DROP participants shall have the option within sixty (60) days of the effective date of Ordinance 2006-10 to irrevocably elect to receive the cost of living adjustment provided above in lieu of their current cost of living adjustment.

For Firefighters, effective April 1, 2011 and each April 1st thereafter, retirees, beneficiaries and DROP participants who were hired before May 1, 2010 and retire or enter the DROP after April 30, 2010 at their normal retirement age receive a 2% cost of living adjustment – prorated for less than one year receipt of benefits.

For Firefighters hired after April 30, 2010, the cost of living adjustment is 1.5%.

Police Officer retirees, DROPs, disabilities and their beneficiaries who retired prior to October 1, 2003 eligible for any supplemental benefit based upon an 8% Fund return threshold subject to cumulative actuarial gains may elect within 60 days to replace this supplemental benefit eligibility entitlement with an annual 2.0% cost of living adjustment retroactive to October 1, 2004.

Police Officer retirees, DROPs, disabilities and their beneficiaries who retired on or after October 1, 2003 but not later than September 30, 2006 or were in the DROP on or after October 1, 2003 and entered the DROP not later than September 30, 2006 eligible for any supplemental benefit based upon a 9% Fund return threshold subject to cumulative actuarial gains along with a 1.5% cost of living adjustment effective October 1, 2009 and each October 1st thereafter may elect within 60 days to replace this supplemental benefit eligibility and 1.5% deferred cost of living adjustment entitlement with an annual 2.5% cost of living adjustment retroactive to October 1, 2004.

Outline of Principal Provisions of the Retirement Plan
(as of October 1, 2018)

V. Changes Since Previous Valuation (cont'd)

7. Cost of Living Adjustment was (cont'd):

Police Officer retirees, DROPs, disabilities and their beneficiaries who retire or enter the DROP on or after October 1, 2006 but not later than April 30, 2010 will receive a 3.0% cost of living adjustment effective October 1, 2009 and each October 1st thereafter.

For Police Officers, effective October 1, 2010 and each October 1st thereafter, retirees, beneficiaries and DROP participants who were hired before May 1, 2010 and retire or enter the DROP after April 30, 2010 at their normal retirement age receive a 2% cost of living adjustment – prorated for less than one year receipt of benefits.

For Police Officers hired after April 30, 2010, the cost of living adjustment is 1.5%.

SECTION C

ACTUARIAL ASSUMPTIONS AND COST METHODS USED FOR FUNDING

Actuarial Assumptions and Actuarial Cost Methods
(as of October 1, 2018)

A. **Mortality**

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Men	Women	Men	Women
	55	29.84	32.60	29.33
60	24.96	27.56	24.76	27.41
62	23.09	25.59	22.97	25.49

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Men	Women	Men	Women
	55	32.06	34.54	31.57
60	27.21	29.49	27.03	29.36
62	25.34	27.51	25.23	27.42

B. **Investment Return**

7.80%, compounded annually, net of investment expenses - includes inflation at 2.75%.

C. **Allowances for Expenses or Contingencies**

Average of actual administrative expenses during prior three (3) years.

Actuarial Assumptions and Actuarial Cost Methods
(as of October 1, 2018)

D. Employee Withdrawal Rates

Withdrawal rates for males and for females were used in accordance with the following illustrative example:

<u>Age</u>	<u>Withdrawal Rates</u> <u>Per 100 Employees</u>			
	<u>Males</u>		<u>Females</u>	
	<u>First 5 Years</u>	<u>5+ Years</u>	<u>First 5 Years</u>	<u>5+ Years</u>
20	2.50	2.19	5.75	3.93
25	2.50	1.59	5.75	2.58
30	2.50	1.16	5.75	1.79
35	2.50	0.68	5.75	1.08
40	2.50	0.38	5.75	0.76
45	2.50	0.18	5.75	0.41
50	2.50	0.03	5.75	0.23
55	2.50	0.02	5.75	0.14
60	2.50	0.00	5.75	0.04
62 & Over	0.00	0.00	0.00	0.00

E. Disability Rates

1. The 1985 Disability Study - Class 2, with separate rate for males and females.
2. 80% of disabilities are assumed to be service incurred - 20% non-service incurred.

F. Payroll Growth Assumption

5.3%, per annum - not greater than historical 10-year average (0.3% as of October 1, 2018).

G. Load for Future Rehires

The normal cost and accrued liabilities are loaded 0.1% for assumed future rehired members.

Actuarial Assumptions and Actuarial Cost Methods
(as of October 1, 2018)

H. Salary Increase Factors

Current salary is assumed to increase at a rate based on the table below per year until retirement - includes wage inflation of 3.0%.

<u>Service</u>	<u>Salary Increase</u>
0 years	8%
1	8%
2	7%
3	6%
4	5%
5	4%
6	4%
7 + years	3%

For members hired before May 1, 2010, average monthly earnings for retirements and DROPs are increased between 5.5% and 28.0% to reflect additional earnings during the averaging period including the inclusion in pensionable earnings of up to 1,000 hours of accrued unused leave as of April 30, 2010 payable at retirement or DROP entry.

The increase is calculated as follows:

$$5.5\% + \frac{\text{Total Hours of Accrued Unused Leave (1,000 maximum)}}{1,000} \times 22.5\%$$

For members hired on or after May 1, 2010, average monthly earnings for retirements and DROPs are increased 5.5% to reflect additional earnings during the averaging period.

The assumed salary increase rate after 7+ years of service reflects frozen longevity pay as of April 30, 2010.

I. Assumed Retirement Age

The retirement rates **for members hired before May 1, 2010 who are expected to reach the 80% of AME maximum benefit in the 21st year of service** are as follows:

1. 75% of members are assumed to retire the first year after attaining age fifty (50) and ten (10) years of credited service.
2. 50% of members are assumed to retire each year thereafter until reaching twenty (20) years of credited service.
3. 60% of members are assumed to retire after completing twenty (20) years of credited service.
4. 100% of members are assumed to retire upon attainment of twenty-one (21) years of credited service.

Actuarial Assumptions and Actuarial Cost Methods
(as of October 1, 2018)

I. Assumed Retirement Age (cont'd)

The retirement rates **for members hired before May 1, 2010 who are expected to reach the 80% of AME maximum benefit in the 22nd year of service** are as follows:

1. 70% of members are assumed to retire the first year after attaining age fifty (50) and ten (10) years of credited service.
2. 20% of members are assumed to retire each year thereafter until reaching twenty (20) years of credited service.
3. 60% of members are assumed to retire after completing twenty (20) years of credited service.
4. 15% of members are assumed to retire after completing twenty-one (21) years of credited service.
5. 100% of members are assumed to retire upon attainment of twenty-two (22) years of credited service.

The retirement rates **for members hired before May 1, 2010 who are expected to reach the 80% of AME maximum benefit in the 23rd year of service** are as follows:

1. 60% of members are assumed to retire the first year after attaining age fifty (50) and ten (10) years of credited service.
2. 18% of members are assumed to retire each year thereafter until reaching twenty (20) years of credited service.
3. 40% of members are assumed to retire after completing twenty (20) years of credited service.
4. 15% of members are assumed to retire after completing twenty-one (21) years of credited service.
5. 15% of members are assumed to retire after completing twenty-two (22) years of credited service.
6. 100% of members are assumed to retire upon attainment of twenty-three (23) years of credited service.

For Firefighters hired after June 18, 2003 but before May 1, 2010 who are expected to reach age 50 before completion of twenty (20) years of service, 100% are assumed to retire upon reaching the same multiplier (% of AME) they would have reached under the Plan in effect prior to April 30, 2010.

The retirement rates **for members hired on or after May 1, 2010** are as follows:

1. 50% of members who complete ten (10) years of service after reaching age 50 are assumed to retire upon completion of ten (10) years of credited service.
2. 15% of members who reach age 50 after completion of ten (10) years of credited service are assumed to retire upon reaching age 50.
3. 15% of members are assumed to retire each year thereafter, until reaching twenty (20) years of credited service.
4. 20% of members are assumed to retire upon reaching twenty (20) years of credited service.
5. 15% of members are assumed to retire each year thereafter, until reaching twenty-five (25) years of credited service.
6. 100% of members are assumed to retire upon reaching twenty-five (25) years of credited service.

Actuarial Assumptions and Actuarial Cost Methods
(as of October 1, 2018)

J. Marital Assumptions

1. 50% of deaths are assumed to be service incurred - 50% non-service incurred.
2. There are no children eligible for benefits.
3. 95% of participants are married.
4. Spouses are assumed to be the same age as members.

K. Cost of Living Adjustment

Firefighters: For Firefighters who retired or entered the DROP prior to May 1, 2010, 2.0% for those who elected the fluctuating COLA and 3.0% for those who elected the fixed COLA. 2.0% for Firefighters hired before May 1, 2010 who are expected to retire or enter the DROP after April 30, 2010. 1.5% for Firefighters hired after April 30, 2010.

Police Officers: 0.0%, 2.0% or 2.5% based upon election for Police Officers who retired or entered the DROP prior to October 1, 2006. 3.0% for Police Officers who retired or entered the DROP on or after October 1, 2006 but before May 1, 2010. 2.0% for Police Officers hired before May 1, 2010 who are expected to retire or enter the DROP after April 30, 2010. 1.5% for Police Officers hired after April 30, 2010.

L. Smoothed Asset Valuation Method

Smoothed actuarial value of assets is equal to the expected smoothed actuarial value of assets adjusted by 20% of the difference between the expected smoothed actuarial value and market value.

M. Cost Method

Normal Retirement, Termination, Disability, and Death Benefits: Entry Age Normal Cost Method

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his entry age to his assumed retirement age to fund his estimated benefits, assuming the Fund had always been in effect. The normal cost for the Fund is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the Fund is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the assets of the Fund.

The DROP accounts balance is included in the assets and liabilities as of the valuation date.

N. Changes Since Previous Valuation

Investment Return was:

7.85%, compounded annually, net of investment expenses.

SECTION D

GLOSSARY

GLOSSARY

<i>Actuarial Accrued Liability</i>	The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.
<i>Actuarial Assumptions</i>	Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members and other items.
<i>Actuarial Cost Method</i>	A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.
<i>Actuarial Equivalent</i>	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
<i>Actuarial Present Value</i>	The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.
<i>Actuarial Present Value of Future Benefits</i>	The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
<i>Actuarial Valuation</i>	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.
<i>Actuarial Value of Assets</i>	The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution.

<i>Amortization Method</i>	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
<i>Amortization Payment</i>	That portion of the plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
<i>Amortization Period</i>	The period used in calculating the Amortization Payment.
<i>Annual Required Contribution</i>	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.
<i>Closed Amortization Period</i>	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
<i>Employer Normal Cost</i>	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
<i>Equivalent Single Amortization Period</i>	For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.
<i>Experience Gain/Loss</i>	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. Losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.
<i>Funded Ratio</i>	The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

<i>GASB</i>	Governmental Accounting Standards Board.
<i>GASB No. 67 and GASB No. 68</i>	These are the governmental accounting standards that set the accounting rules for public retirement plans and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the plans themselves, while Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement plans.
<i>Normal Cost</i>	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
<i>Open Amortization Period</i>	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
<i>Valuation Date</i>	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.